

REMARKS

Claims 1, 3-6 and 14-16 are pending in the present application. Claims 7-13 have been canceled.

Support for the amendment to claim 1 can be found in canceled claim 2. Claim 1 has been amended to be drawn to the wrap film roll.

Claims 3-6 have been amended to be drawn to the wrap film roll.

Support for new claim 14 can be found in claims 1, 2 and 3. Also, support for the lower limit of 500 MPa can be found on page 10, line 13 of the specification.

Support for new claim 15 can be found on page 15, first full paragraph of the specification.

Support for new claim 16 can be found on page 12, first full paragraph of the specification.

No new matter has been added by way of the above-amendment.

[I] March 28, 2006 Interview Regarding The December 5, 2005 Office Action

Applicants note with appreciation that the Examiner conducted a personal Interview with Applicants' representative, Garth M. Dahlen, Ph.D., Esq. (#43,575). The Examiner was very helpful in clarifying the outstanding issues.

Details of the Interview are provided below in the discussion regarding the pending rejections.

[II] Listing of Rejections

The following rejections are pending:

- A) Claims 1, 3-4 and 8-13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 2000-026624 (English translation of abstract provided by applicant, referred

to herein as JP'624) in view of JP 2001-059029 (English abstract provided by applicant, referred to herein as JP'029).

- B) Claims 2 and 6-7 are rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 2000-026624 (English translation of abstract provided by applicant, referred to herein as JP'624) in view of JP 2001-059029 (English abstract provided by applicant, referred to herein as JP'029), as applied to claims 1, 3-4 and 8-13 above, and further in view of JP 05-162747 (English abstract provided by applicant, referred to herein as JP'747).

and

- C) Claim 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 2000-026624 (English translation of abstract provided by applicant, referred to herein as JP'624) in view of JP 2001-059029 (English abstract provided by applicant, referred to herein as JP'029), as applied to claims 1, 3-4 and 8-13 above, and further in view of Kuroki et al. (EP 1029890 A2, provided by applicant).

Applicants respectfully traverse the rejections.

In view of the above-amendment to claim 1 (the only pending independent claim) incorporating the subject matter of claim 2, both Rejections (A) and (C) are rendered moot.

Applicants now discuss Rejection (B) and the teachings of JP '624, JP '029 and JP '747. Partial English translations of JP '624, JP '029 and JP '747 are enclosed for the Examiner's review.

[II-A] Summary of Applicants' Position:

Applicants respectfully submit that the combination of JP '624, JP '029 and JP '747 do not fairly suggest the wrap film roll of claim 1 having the following features:

- a wrap film roll
 - a pulling-out force of 5 to 100cN (new feature of claim 1)
- a wrap film
 - a tensile modulus of 400 to 1500 MPa,
 - a heat resistant temperature of 130 °C or more and

- cling energy of 0.5 to 2.5 mJ,
- at least one outermost surface layer
 - 100 parts by mass of an aliphatic polyester resin (A) and 5 to 40 parts by mass of a liquid additive (B)
 - wherein said at least one outermost surface layer of said wrap film has a surface roughness of 0.5 to 4.0 nm.

Specifically, JP '624 is drawn to a wrap film roll, however, JP '624 fails to teach or fairly suggest the use of at least one outermost surface layer of the wrap film having a surface roughness of 0.5 to 4.0 nm. It is clear from the process of producing the wrap film of JP '624, that the wrap film of JP '624 does not inherently teach a wrap film having the inventive surface roughness. Accordingly, the Examiner is relying upon JP '029 for teaching this feature. However, JP '029 teaches a surface roughness Ra of $0.01\mu\text{m} < \text{Ra} \leq 0.08\mu\text{m}$ which is outside of the inventive range. Also, JP '029 teaches that keeping the surface roughness at higher than $0.01\mu\text{m}$ (Ra) in order to maintain proper slipperiness which is a necessary feature of the film having a use as a laminate or a printing material to avoid wrinkling.

Accordingly, there would be no motivation to modify the surface roughness to below $0.01\mu\text{m}$ (Ra) would render the film of JP '029 inoperable for its intended use.

JP '747 was cited to teach the box holding the wrap film roll as recited in claim 6. JP '747 fails to cure the deficiencies of JP '624 and JP'029.

In conclusion, there are significant patentable distinctions between inventive claim 1 and the teachings of JP '624, JP '029 and JP '747.

Applicants *now explain in detail* the reasons for patentability of the instant claims.

[II-B] Technical Definitions:

Applicants believe that it is first important to define a couple of terms.

"Cling energy" (as recited in present claim 1) is the measure of the adhesive strength the wrap film has to a substrate. For example, a high cling energy means that the wrap film will adhere strongly when applied to a substrate such as a food container.

"Pulling-out force" (as recited in present claim 1) is the force necessary to pull the wrap film from around a core member.

The relationship between these two properties can be seen in the following table:

INPUT		RESULT
(1)	Increase ↑ Cling Energy	Increase ↑ Pulling-out Force
(2)	Decrease ↓ Cling Energy	Decrease ↓ Pulling-out Force

The "clinging property" is defined at page 11, lines 17-19 of the specification as meaning "goodness of clinging and suitability of cling energy as a wrap film easy-to-use, when the cling energy is too high, the result is a poor clinging property. In brief, the clinging property is evaluated by the level of the cling energy.

Thus, the clinging property and the pulling-out property are incompatible properties. An object of the present invention is to provide an easy-to-use biodegradable wrap film having satisfactory clinging property and satisfactory pulling-out property.

With respect to the wrap film which is part of the wrap film roll of inventive claim 1, claim 1 recites a specific cling energy (0.5 to 2.5 mJ) and pulling-out force (5 to 100 cN). This can be achieved by specifying:

- the *surface roughness* of an outermost surface layer of a wrap film composed of an aliphatic polyester resin to be in the range of 0.5 to 4.0 nm,

- the *ratio* of the *aliphatic polyester resin* constituting the outermost surface layer to a *liquid additive*,
- the *tensile modulus* of the film and
- the *heat-resistant temperature* of the film.

The present inventors have found that the surface roughness of the film is closely related to the clinging property. By specifying a resin composition and the tensile modulus of the film to specific ranges on the basis of these findings, a wrap film combining the excellent clinging property and the excellent pulling-out property has been achieved. In the present invention, the cling energy is required to be at least 0.5 mJ. However, when the cling energy exceeds 2.5 mJ, the pulling-out property is degraded. Also, in order to impart satisfactory pulling-out property even for a cling energy of 2.5 mJ or less, the pulling-out force is required to be in the range of 5 to 100 cN. In addition, the present inventors have found that when the surface roughness exceeds 4.0 nm, satisfactory clinging property cannot be obtained even for a cling energy of 0.5 mJ or more. Even when the surface roughness is 4.0 nm or less, satisfactory clinging property cannot be obtained for a cling energy of 0.5 mJ or less.

The attached graph of Figure 1 shows this relationship between clinging property and the surface roughness that the present inventors have found, i.e., that a high clinging property is exhibited in a region where the surface roughness is 4.0 nm or less.

[II-C] Instant Method for Producing Wrap Film:

Applicants now comment on the instant method of producing the wrap film of the present invention. The present inventors have found several routes to obtaining the inventive wrap film having

- i) a small surface roughness, i.e., a surface roughness of 0.5 to 4.0 nm
- ii) satisfactory clinging property and
- iii) satisfactory pulling-out property

Although the present invention is certainly not limited to any particular process of forming the wrap film, Applicants provide comments on one embodiment of the inventive process. This will

be discussed further with respect to JP '624 as evidence that JP '624 does not inherently teach a wrap film having the inventive properties i)-iii). The inventive wrap film can be produced by, for example, (see pp. 13-19):

- (a) A resin composition is extruded in the form of a film, and is then quickly cooled;
- (b) Stretching is performed (at temperatures in the range of the glass transition temperature (T_g) to the crystallization peak temperature);
- (c) After stretching, heat treatment is performed (at temperatures in the range of the melting point to the melting point minus 40°C); and
- (d) After heat treatment, quick cooling is performed.

These conditions favor increased degree of crystallinity by suppressing the formation of coarse crystals and increasing the formation of microcrystals. It is the amount and size of crystals of the polyester that affect the surface roughness.

[II-D] JP '624:

An object of JP '624 is to provide a film having a clinging property and a heat resistance that are suitable for wrapping (see Abstract and [0001]). In order to achieve the above object, JP '624 describes a wrap film that is composed of an aliphatic polyester resin and a liquid additive in a specific ratio and that has a specific cling energy and a heat-resistant temperature (claims). However, *JP 624 does not disclose: 1) the surface roughness of the film, 2) the pulling-out force of the film, and in particular, 3) the relationship between the cling energy and the surface roughness of the film.*

Although JP '624 describes that the pulling-out property is controlled by setting the upper limit of the cling energy ([0023] and [0043] to [0045]), the pulling-out force is not described.

Upon comparing the method for producing the film described in JP '624 with steps of (a) to (d) in the present invention (as defined in the previous section), JP '624 describes steps (a) and (b) but *does not describe steps (c) and (d)* ([0031], [0041], and [0042]).

In the present invention, the heat treatment after stretching is an important step in order to *(1) suppress the change in the physical properties of the film and (2) control the cling energy, the pulling-out force, the tensile modulus, and the surface roughness, by accelerating the crystallization.*

When the temperature of the heat treatment is excessively high or the time of the heat treatment is excessively long, the crystallization excessively proceeds, resulting in the formation of coarse crystals. Consequently, the surface roughness is increased and the cling energy is decreased (see the discussion of the present specification at p. 16, line 3 to p. 17, line 26).

Furthermore, *JP '624 does not describe the quick cooling after heat treatment.* In the present invention, the crystallization of the film is allowed to proceed in the step of heat treatment. If the quick cooling is not performed after the heat treatment, the film is wound while the crystallization is still proceeding. As a result, a blocking of the film occurs during winding and the film is adhered with itself. When the wound film is pulled out, the film is forcibly pulled out while the adhered parts are broken. Regarding the surface of the film thus pulled out, since the adhered parts are broken, the previously adhered parts of the film have a large surface roughness (see the discussion of the present specification at p. 18, line 6 to line 21). Accordingly, JP '624 does not describe means required for producing a wrap film having the surface roughness, the cling energy, and the pulling-out force of the present invention.

[II-E] JP '029:

The invention disclosed in JP '029 relates to a film composed of an aliphatic polyester containing a polylactic acid polymer as a main component. *JP '029 does not describe that the film in '029 is to be used as a wrap film. The film of '029 is used as a laminate or for printing.* An object of the invention in JP '029 is to maintain a slippery surface of the film so that when it is

used as a laminate, wrinkles will not form by the film sticking to the substrate (see Abstract, [0004], and [0005]). In order to achieve the slipperiness of the film, according to the invention in JP '029, *inorganic fine particles* are incorporated in the film and the surface roughness of the film is $0.01 < Ra \leq 0.08$ ([0006] and [0007]).

As described below, the unit of Ra in JP '029 is " μm ". Accordingly, converting the units of micrometers for the range of $0.01 < Ra \leq 0.08$ to nanometers, this range becomes $10 < Ra \leq 80$ (nm), which is outside the inventive range of 0.5 to 4.0 nm.

It is clear that the units for the range of $0.01 < Ra \leq 0.08$ of JP '029 is micrometers based on the radius of the probing tip used in the device for measuring surface roughness of JP '029. The surface roughness measuring device SE-3F manufactured by Kosaka Laboratory Ltd., which is used for measuring Ra in JP '029, includes a roughness analysis unit AY-22 and a versatile surface configuration measuring unit SE-3C, according to the instruction manual provided by the manufacturer. The surface configuration is measured with the SE-3C, and the measured data is calculated with the AY-22 according to Japanese Industrial Standard (JIS) B 0601 to calculate the surface roughness Ra. The instruction manuals of the SE-3C and the AY-22 provided by the manufacturer describe that *the measurement unit of Ra is " μm "* (see, the attached manual).

Although the relationship between the surface roughness Ra and the slipping property (or slipperiness) of the film is described in '029, *the relationship between the surface roughness and the clinging property is not discussed.*

Slipping property \neq Clinging property

The slipping property indicates the ease of movement of the film when the film is moved in the direction parallel to a substrate surface (in the X-Y plane) on which the film is contacted. The clinging property indicates the ease of peeling off the film when the film is perpendicularly peeled off from the surface (in the Z-direction) on which the film is contacted. Accordingly, the

slipping property and the clinging property of the film are not related and JP '029 does not disclose the clinging property of the film.

As described above, improved clinging property in present invention requires

- 1) cling energy is 0.5 to 2.5 mJ and*
- 2) the surface roughness is 4.0 nm or less.*

Accordingly, it cannot be easily predicted whether a film having a surface roughness of 4.0 nm or less and a cling energy of 0.5 to 2.5 mJ has high clinging property on the basis of the film that has a surface roughness of 10 to 80 nm in order to improve the slipping property of the film.

The difference in the method for measuring the surface roughness described below also clearly shows that JP '029 does not suggest the relationship between the surface roughness of the film having a surface roughness of 10 nm or less, in particular, 4.0 nm or less, and the clinging property.

The surface roughness of the present invention is measured by observing the surface configuration of the film in a tapping mode of a Nano Scope IIIa atomic force microscope manufactured by Digital Instruments. The measurement is performed by tapping the surface of the film with a probe having a tip with a radius of curvature of 10 nm in an area with an observation view angle of 2 μm (length of one side: 2 μm) (attached specification of the present invention, p. 19, line 19 to line 31) (the attached document 1).

The surface roughness in JP '029 is determined, according to JIS B 0601, by moving a probe having a tip with a radius of 2 μm (2,000 nm) over the film by 8 mm, and measuring the irregularities disposed therebetween ([0041]).

Comparing the method for measuring the surface roughness in the present invention with that in JP '029, *the radius of curvature of the tip of the probe used in JP '029 is 200 times that of the probe used in the present invention.* The radius of curvature of the tip of the probe used in JP

'029 is equal to the observation view angle of $2\ \mu\text{m}$ (2,000 nm) in the present invention. In JP '029, the probe having a tip with a radius of curvature of 2,000 nm is moved by 8 mm over the film and irregularities disposed therebetween are observed.

That is, in the present invention, the surface roughness is calculated by measuring irregularities on the surface of an area with an observation view angle of 2,000 nm with a probe having a tip with a radius of curvature of 10 nm. On the other hand, in JP '029, a probe having a tip with a radius of curvature of 2,000 nm, which is equal to the observation view angle of $2\ \mu\text{m}$ (2,000 nm) in the present invention, is moved by 8 mm over the film, and irregularities disposed therebetween are measured. In the present invention, the irregularities on the surface of the film must be measured with a probe having such a minute tip. According to the present invention, when the surface roughness measured by this method is 4.0 nm or less, the clinging property is improved. This difference in the measurement methods means that the object of detecting the surface irregularities to be detected is different between the present invention and JP '029. JP '029 aims at surface irregularities required for providing satisfactory slipping property. In contrast, the present invention aims at surface irregularities required for providing satisfactory clinging property. According to the measurement method in JP '029, the radius of curvature of the probe is excessively large, compared with the measurement view angle of the present invention. Therefore, the minute surface irregularities affecting the clinging property, which are a measuring object in the present invention, cannot be detected by the method in '029.

Furthermore, according to the instruction manual provided by the manufacturer, the measuring range of R_a of the surface roughness measuring device SE-3F used in JP '029 is 0.01 to $600\ \mu\text{m}$ (10 to 600,000 nm) and the diameter of the tip of the probe used in JP '029 is $2\ \mu\text{m}$. Thus, the surface roughness measuring device SE-3F aims at the detection of irregularities on the order of micrometers rather than the detection of minute irregularities on the order of nanometers. This fact also means that the object of the surface irregularities to be detected is different between the present invention and JP '029.

As described above, the sensitivity of the measurement is different between the method in the present invention and that in JP '029. Since the surface roughness Ra is calculated as an average from the data of detected irregularities according to an equation specified in JIS B 0601, the surface roughness is calculated regardless of the sensitivity of the measurement. However, since the object of the surface irregularities to be measured is completely different, there is no point in simply comparing the values of Ra obtained from these two measurement methods.

The reason that a probe having a tip with a radius of 2 μm is used in JP '029 is as follows. According to an object of JP '029, inorganic fine particles are incorporated in the film to provide the surface of the film with a certain degree of roughness, and thus the slippage of the film is improved. For this purpose, the object can be achieved by measuring the surface roughness on the order of micrometers. The balance between the clinging property and the pulling-out property of the film is not considered in JP '029.

Additionally, in JP '029, a ten-point average roughness Rz is used as an indicator of the smoothness, but *Rz is an indicator showing the variation in irregularities of the film*. In other words, in JP '029, it is intended that the surface roughness Ra is controlled to $10 < \text{Ra} \leq 80$ (nm) and Rz, which indicates a variation in the surface roughness is reduced in order to make uniform and smoothen the irregularities on the surface.

As described above, the film having the surface roughness of the present invention has been realized by the development of a production method by the present inventors, thereby the relationship between the surface roughness and the clinging property has become clear.

[II-F] Difference in the production method between the present invention and JP '029

Applicants also note that the difference between the production method of JP '029 and the present invention is an important factor to consider, since the inventors of JP '029 went to great lengths to ensure that the roughness of the surface was greater than 10 nm. In JP '029, the

following production method is employed in order to achieve the surface roughness of $10 < Ra \leq 80$ (nm):

- (i) The incorporated inorganic particles are protruded during stretching to roughen the surface, thereby improving the slippage of the film. However, in a polylactic acid polymer that has low crystallinity or that does not crystallize, the protruded inorganic particles are embedded in the film again, and thus a film having satisfactory slippage cannot be obtained. (See [0010]).
- (ii) The content of the inorganic fine particles is preferably 0.01 to 120 parts by weight relative to 100 parts by weight of the aliphatic polyester. When the content of the inorganic fine particles is less than 0.01 parts by weight, the effect of imparting the slipping property cannot be achieved. (See [0027]).
- (iii) As the average particle size increases, the roughness of the film surface increases, the slipping property is improved, and the coefficient of friction decreases. Incorporation of a larger number of parts also provides the same effects. On the other hand, when the average particle size is excessively small, the effect of imparting the slipping property is excessively low. (See [0029]).
- (iv) Regarding the film thus obtained, when the stretching ratio is low, the particles are not protruded on the surface of the film. Therefore, in order to improve the roughness of the surface of the film by protruding the particles, it is necessary to sufficiently orient the film. (See [0035]).
- (v) The resulting biaxially oriented polylactic acid film preferably has a surface roughness Ra of $0.01 < Ra \leq 0.08$ (unit: μm). As Ra increases, the surface of the film is roughened, the contact area of the film decreases, and the slipping property is improved. (See [0038]).

As is apparent from the above, in JP '029, by (1) dispersing inorganic particles having a specific particle size in the film in a specific amount, and (2) selecting the stretching conditions, a surface roughness satisfying $10 < Ra \leq 80$ (nm) is actively pursued to improve the slipping property of the film. Thus, during film production, the slippage of the film is improved and meandering of the film and the generation of wrinkles are suppressed. According to the description, when the surface roughness is 10 nm or less, the effect of imparting the slipping property is decreased.

Comparing the production method of the present invention with that in JP '029 ([0034] to [0037], [0043], and Table 1), the method in JP '029 is different from the present invention in the steps (c) and (d) (as defined in Section [II-C] above). Namely, the temperature of heat treatment

in JP '029 is 50°C (Example 4), 120°C (Examples 1 to 3 and 5), and 130°C (Example 6). The heat treatment at 50°C in Example 4 means that heat treatment is not substantially performed, as described in Example 4 of the specification. In other words, in JP '029, heat treatment is not an essential condition required for producing the film.

Furthermore, the quick cooling after heat treatment is also not performed in JP '029. In the step of heat treatment, crystallization of the film proceeds. If the quick cooling is not performed after the heat treatment, the film is wound while the crystallization is still proceeding. As a result, a blocking the film occurs during winding and the film is adhered with itself. When the wound film is pulled out, the film is forcibly pulled out while the adhered parts are broken. Regarding the surface of the film thus pulled out, since the adhered parts are broken, the previously adhered parts of the film have a large surface roughness (see specification of the present invention, p. 18, line 6 to line 21). Accordingly, the film of the present invention, which has a small surface roughness, satisfactory clinging property, and satisfactory pulling-out property cannot be obtained.

Because of this difference in the production process, even if the inorganic fine particles are not added in '029, the film having the surface roughness of the present invention cannot be produced.

In view of the fact that JP '029 teaches that having an Ra of 10 nm or less would substantially reduce the slipperiness of the film, there would be no motivation for the artisan to modify the film of JP '624 to have a surface roughness of 0.5 to 4.0 nm as presently claimed. Accordingly, JP '029 fails to cure the deficiencies of JP '624.

[II-G] JP '747:

The invention disclosed in JP '747 relates to a cutter for cutting a sheet or a belt-shaped product, for example, a film wound around a core member. Furthermore, the invention relates to a carton for containing a wrapping sheet, including the cutter.

Hitherto, a problem has occurred in that when a wrapping sheet or the like is pulled out from a dispenser box to be cut off, users may be wounded with a metal cutter part ([0003]). An object of the invention disclosed in JP '747 is to provide the following cutter and a carton for containing a wrapping sheet, including the cutter. According to the cutter disclosed in JP '747, when a wrapping sheet is pulled out from a dispenser box to be cut off, the cutter can be easily attached and has an excellent disposability and the operations for pulling out and cutting a sheet or a tape can be performed safely ([0004]).

The invention of JP '747 provides a cutter formed of rigid paper having a serrated part provided on one side thereof and formed by punching (claim 1) and a carton for containing a wrapping sheet to which the cutter is attached (claim 4).

Accordingly, JP '747 describes a core member and a film wound around the core member but does not disclose the structure of the wrap film of the present invention, and as such, JP '747 fails to cure the deficiencies of JP '624 and JP '029.

[III-H] Patentability of the Present Invention over the Combination of JP '624, JP '029, and JP '747:

JP '624 relates to an invention aimed at imparting satisfactory clinging property to a wrap film and does not describe the surface roughness; the relationship between the surface roughness, the cling energy, and the clinging property; and the pulling-out force. Accordingly, JP '624 does not disclose an easy-to-use wrap film having satisfactory clinging property and satisfactory pulling-out property.

According to the description in JP '029, in order to suppress the meandering of the film and generation of wrinkles by improving the slippage of the film during film production, inorganic fine particles are incorporated and the stretching conditions are controlled to provide the surface of the film with a roughness of greater than 10 nm up to and including 80 nm. However, JP '029 does not disclose the relationship between the surface roughness and the

clinging property of the film. The slipping property and the clinging property are not related and there would be no motivation for combining JP '624 and JP '029.

Since the method for measuring the surface roughness is different between JP '624 and JP '029, the measured surface roughness cannot be compared in the same way. For example, the object of measuring irregularities is different between irregularities measured by moving a probe having a radius of curvature of 10 nm in an area with a view angle of 2,000 nm and irregularities measured by moving a probe having a radius of curvature of 2,000 nm in a distance of 8 mm.

Accordingly, it is not easy to determine the surface roughness required for improving the clinging property of the film on the basis of the value of the surface roughness obtained by the measurement method of JP '029.

In addition, JP '029 does not describe a method for producing a film having an extremely low surface roughness, 0.5 to 4.0 nm. According the production method described in JP '029, since the film having the surface roughness of the present invention cannot be produced, it is not easily anticipated that the film having the surface roughness of the present invention has a high clinging property. Therefore, it is not easily anticipated that the film having the surface roughness and the cling energy of the present invention has high a clinging property.

The clinging property and pulling-out property of the film are not described in JP '747.

As described above, since the prior art documents do not discuss a film having satisfactory clinging property and pulling-out property, the present invention is not obvious from the combination of JP '624, JP '029, and JP '747 and ***withdrawal of Rejection (B) is respectfully requested.***

III] Patentability of the Present Invention over the Combination of JP '624, JP '029, and EP1029890 (hereinafter referred to as EP '890):

In Rejection (C), EP '890 is applied against claim 5. Applicants now comment on the combination of JP '624, JP '029 and EP '890 to highlight certain patentable distinctions between the present invention and the combined disclosure of these cited patents.

EP '890 describes a film composed of a compound containing an acetylated monoglyceride and an aliphatic polyester, which is described in claim 5 in the present invention. The compound of the present invention is different from the compound of '890 in that R² and R³ of the compound of the present invention are limited to an acetyl group or hydrogen.

EP '890 describes that the film composed of a composition containing an aliphatic polyester and the above compound has excellent transparency, heat resistance, and flexibility ([0007]). However, in order to use this film as a wrap film, satisfactory clinging property and satisfactory pulling-out property are required. In order to provide the film of EP '890 with a function such as clinging property, *a layer having such a function must be formed on the surface of the polyester film* of EP '890 as an outermost surface layer ([0045] to [0047]).

In contrast, in the present invention, a composition composed of an aliphatic polyester and an acetylated monoglyceride is used as an outermost surface layer, and satisfactory clinging property and pulling-out property are imparted to this layer by specifying the ratio of the aliphatic polyester to the acetylated monoglyceride, the tensile modulus, the surface roughness, the cling energy, and the pulling-out force.

EP '890 does not disclose a technique for imparting the clinging property and pulling-out property to the composition itself.

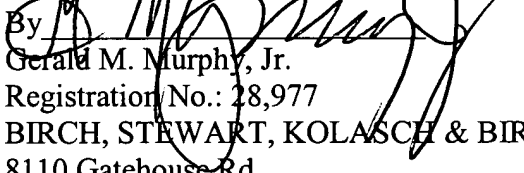
Therefore, the present invention is not obvious from the combination of these three documents.

With the above remarks, Applicants believe that the claims, as they now stand, define patentable subject matter such that passage of the instant invention to allowance is warranted. A Notice to that effect is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact **Garth M. Dahlen, Ph.D., Esq.** (Reg. No. 43,575) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

Dated: April 5, 2006

Respectfully submitted,

By 
Gerald M. Murphy, Jr.
Registration No.: 28,977
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Rd
Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorney for Applicant

Attachments:

- 1) Figure 1: EFW - Relationship between roughness of surface and peel strength
- 2) Partial English translations of JP '624, JP '029 and JP '747
- 3) Document 1 - specs for NCH probe (Nanoworld AG) used by present inventors to measure surface roughness
- 4) Document 2 - Partial English translation of Instruction Manual for the surface roughness measuring device SE-3F manufactured by Kosaka Laboratory Ltd., which is used for measuring Ra in JP '029.